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[John Criswell, Andrew Lenharth, Dinakar Dhurjati, Vikram Adve](#)
October 2007 **SOSP '07: Proceedings of twenty-first ACM SIGOPS symposi**

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Bibliometrics: Downloads (6 Weeks): 31, Downloads (12 Months): 287, Downl

This paper describes an efficient and robust approach to provide a *safe* system, such as Linux, and all its applications. The approach, which we defines ...

Keywords: compiler, memory safety, operating systems, security, type machine

Also published in:

October 2007 **SIGOPS Operating Systems Review** Volume 41 Issue 6

- 2 [Dynamic optimization for efficient strong atomicity](#)
 [Florian T. Schneider, Vijay Menon, Tatiana Shpeisman, Ali-Reza Adl-Tabata](#)
October 2008 **OOPSLA '08: Proceedings of the 23rd ACM SIGPLAN confere**
languages and applications

Publisher: ACM [Request Permissions](#)

Full text available: [Pdf \(342.68 KB\)](#) Additional Information: [full citation](#), [abst](#)

Bibliometrics: Downloads (6 Weeks): 21, Downloads (12 Months): 196, Downl

Transactional memory (TM) is a promising concurrency control alternati important memory model issues regarding TM semantics and exposed p safe, managed languages such ...

Keywords: code generation, compiler optimizations, dynamic optimizai virtual machines

Also published in:

October 2008 **SIGPLAN Notices** Volume 43 Issue 10

- 3 [Design of the Java HotSpot™ client compiler for Java 6](#)
 [Thomas Kotzmann, Christian Wimmer, Hanspeter Mössenböck, Thomas Ro](#)
May 2008 **Transactions on Architecture and Code Optimization (T.**

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Version 6 of Sun Microsystems' Java HotSpot™ VM ships with a redesign that includes several research results of the last years. The client compiler used by default ...

Keywords: Java, compiler, deoptimization, intermediate representation, register allocation

4 [Compiler and runtime support for efficient software transactional memory](#)

 [Ali-Reza Adi-Tabatabai](#), [Brian T. Lewis](#), [Vijay Menon](#), [Brian R. Murphy](#), [Bral](#)
June 2006 **PLDI '06:** Proceedings of the 2006 ACM SIGPLAN conference
implementation

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Bibliometrics: Downloads (6 Weeks): 27, Downloads (12 Months): 373, Download


Programmers have traditionally used locks to synchronize concurrent access to shared data. Lock-based synchronization, however, has well-known pitfalls: using locks for fine-grained synchronization that already uses locks are both difficult ...

Keywords: code generation, compiler optimizations, locking, synchronization, transactional memory

Also published in:

June 2006 **SIGPLAN Notices** Volume 41 Issue 6

5 [RPython: a step towards reconciling dynamically and statically typed languages](#)

 [Davide Ancona](#), [Massimo Ancona](#), [Antonio Cuni](#), [Nicholas D. Matsakis](#)
October 2007 **DLS '07:** Proceedings of the 2007 symposium on Dynamic languages

Publisher: ACM

Full text available:  Pdf (239.48 KB)


Additional Information: [full citation](#), [abstract](#)

Bibliometrics: Downloads (6 Weeks): 7, Downloads (12 Months): 91, Download

Although the C-based interpreter of Python is reasonably fast, implementing a JIT compiler offers some advantages in terms of robustness and interoperability. Unladen Python is primarily designed to execute ...

Keywords: .NET, JVM, Python


6 [Online optimizations driven by hardware performance monitoring](#)

 [Florian T. Schneider](#), [Mathias Payer](#), [Thomas R. Gross](#)
June 2007 **PLDI '07:** Proceedings of the 2007 ACM SIGPLAN conference
implementation

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Bibliometrics: Downloads (6 Weeks): 17, Downloads (12 Months): 122, Downl


Hardware performance monitors provide detailed direct feedback about source of information that a compiler may use for optimization. A JIT c such information because ...

Keywords: Java, dynamic optimization, hardware performance monitor



Also published in:

June 2007 **SIGPLAN Notices** Volume 42 Issue 6

7 [Optimistic parallelism benefits from data partitioning](#)

 Milind Kulkarni, Keshav Pingali, Ganesh Ramanarayanan, Bruce Walter, Ka March 2008 **ASPLOS XIII: Proceedings of the 13th international conferer** languages and operating systems

Publisher: ACM  [Request Permissions](#)

Full text available:  Flv (22:0 MIN),  Pdf (356.09 KB) Additional Information: [full citatio](#)

Bibliometrics: Downloads (6 Weeks): 15, Downloads (12 Months): 223, Downl

Recent studies of irregular applications such as finite-element mesh gen shown that these applications have a generalized data parallelism arisin perform computations on ...

Keywords: data partitioning, irregular programs, locality, lock coarseni decomposition

Also published in:

March 2008 **SIGARCH Computer Architecture News** Volume 36 Issue 1

March 2008 **SIGPLAN Notices** Volume 43 Issue 3

March 2008 **SIGOPS Operating Systems Review** Volume 42 Issue 2

8 [Code Generation and Optimization for Transactional Memory Constr](#)

Cheng Wang, Wei-Yu Chen, Youfeng Wu, Bratin Saha, Ali-Reza Adi-Tabatai March 2007 **CGO '07: Proceedings of the International Symposium on Cor**


Publisher: IEEE Computer Society

Full text available:  Pdf (365.03 KB) Additional Information: [full citation](#), [abs](#)

Bibliometrics: Downloads (6 Weeks): 10, Downloads (12 Months): 153, Downl


Transactional memory offers significant advantages for concurrency con the design and implementation of transactional memory constructs in a languages pose a unique set of challenges ...

9 [Just-In-Time compilation on ARM processors](#)

 Michele Tartara, Simone Campanoni, Giovanni Agosta, Stefano Crespi Regi July 2009 **ICOOOLPS '09: Proceedings of the 4th workshop on the Imp** Object-Oriented Languages and Programming Systems

Publisher: ACM  [Request Permissions](#)

Full text available: Additional Information:


 [Pdf \(604.92 KB\)](#)
[full citation, abstract](#)

Bibliometrics: Downloads (6 Weeks): 15, Downloads (12 Months): 41, Downloads (24 Months): 10

This paper presents a Just-In-Time compilation system for ARM process starting from static compilation of the sources into CIL (Common Intermediate Languages) that are used ...


Keywords: ARM, dynamic compilation, embedded systems

10 [Gestural hyper instrument collaboration with generative computation](#)

 [Kirsty Beilharz, Sam Ferguson](#)

June 2007 **C&C '07:** Proceedings of the 6th ACM SIGCHI conference on Computer-Centered Music

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Full text available:  [Pdf \(44.02 MB\)](#)


Additional Information: [full citation, abstract](#)

Bibliometrics: Downloads (6 Weeks): 9, Downloads (12 Months): 131, Downloads (24 Months): 10

This paper describes the performance, mapping, transformation and re-triggered musical creativity. These phases are articulated in an example (Crossing), an audio-visually ...

Keywords: augmented performance, generative music, gestural interaction

11 [Tracing for web 3.0: trace compilation for the next generation web applications](#)

 [Mason Chang, Edwin Smith, Rick Reitmaier, Michael Bebenita, Andreas Gal, Franz](#)

March 2009 **VEE '09:** Proceedings of the 2009 ACM SIGPLAN/SIGOPS international conference on Virtual Execution Environments

Publisher: ACM  [Request Permissions](#)

Full text available:  [Pdf \(647.16 KB\)](#)


Additional Information: [full citation, abstract](#)

Bibliometrics: Downloads (6 Weeks): 53, Downloads (12 Months): 291, Downloads (24 Months): 10

Today's web applications are pushing the limits of modern web browser: platform of choice for rich client-side applications has shifted the use of programs to large computationally ...

Keywords: dynamic compilation, dynamically typed languages, forth, javascript specialization

12 [Enforcing isolation and ordering in STM](#)

 [Tatiana Shpeisman, Vijay Menon, Ali-Reza Adi-Tabatabai, Steven Balensiefen, Katherine F. Moore, Bratin Saha](#)

June 2007 **PLDI '07:** Proceedings of the 2007 ACM SIGPLAN conference on Programming Language Design and Implementation

Publisher: ACM  [Request Permissions](#)

Full text available:  [Pdf \(257.39 KB\)](#)

Additional Information: [full citation, abstract](#)

Bibliometrics: Downloads (6 Weeks): 17, Downloads (12 Months): 208, Downloads (24 Months): 10


Transactional memory provides a new concurrency control mechanism to synchronize. High-performance software transactional memory (STM) *atomicity*: Accessing shared ...

Keywords: code generation, compiler optimizations, escape analysis, is transactional memory, virtual machines, weak atomicity

Also published in:

June 2007 **SIGPLAN Notices** Volume 42 Issue 6

13 [Hardware atomicity for reliable software speculation](#)

 [Naveen Neelakantam, Ravi Rajwar, Suresh Srinivas, Uma Srinivasan, Craig June 2007](#) **ISCA '07: Proceedings of the 34th annual international symposium on computer architecture**

Publisher: ACM

Full text available:  [Pdf](#) (805.55 KB)

Additional Information: [full citation](#), [abstract](#)

Bibliometrics: Downloads (6 Weeks): 13, Downloads (12 Months): 121, Downloads (All Time): 121

Speculative compiler optimizations are effective in improving both single-processor performance and energy consumption, but their implementation introduces significant complexity in the compiler optimization scope, and ...

Keywords: Java, atomicity, checkpoint, isolation, optimization, speculation

Also published in:

June 2007 **SIGARCH Computer Architecture News** Volume 35 Issue 2

14 [Design and evaluation of dynamic optimizations for a Java just-in-time compiler](#)

 [Toshio Suganuma, Toshiaki Yasue, Motohiro Kawahito, Hideaki Komatsu, Toshiaki Yasue, July 2005](#) **Transactions on Programming Languages and Systems**

Publisher: ACM  [Request Permissions](#)

Full text available:  [Pdf](#) (1.60 MB)


Additional Information: [full citation](#), [abstract](#)

Bibliometrics: Downloads (6 Weeks): 21, Downloads (12 Months): 219, Downloads (All Time): 219

The high performance implementation of Java Virtual Machines (JVM) are moving toward employing a dynamic compilation system on the basis of online compilation between the compilation overhead ...

Keywords: JIT compiler, Recompilation, adaptive optimization, code specialization, directed method inlining

15 [CodeBricks: code fragments as building blocks](#)

 [Giuseppe Attardi, Antonio Cisternino, Andrew Kennedy June 2003](#) **PEPM '03: Proceedings of the 2003 ACM SIGPLAN workshop on program manipulation**

Publisher: ACM  [Request Permissions](#)

Full text available:  [Pdf](#) (294.34 KB)

Additional Information: [full citation](#), [abstract](#)

Bibliometrics: Downloads (6 Weeks): 6, Downloads (12 Months): 38, Downloads (All Time): 38


We present a framework for code generation that allows programs to m level while the joining and splicing of executable code is carried out aut The framework introduces ...

Keywords: domain specific language, generative programming, metap program generation, program transformation, reflection

Also published in:

October 2003 **SIGPLAN Notices** Volume 38 Issue 10

16 Techniques for obtaining high performance in Java programs

 Ifat H. Kazi, Howard H. Chen, Berdenia Stanley, David J. Lilja

September 2000 **Computing Surveys (CSUR)** , Volume 32 Issue 3

Publisher: ACM  [Request Permissions](#)

Full text available:  Pdf (816.13 KB)

[Additional Information: full citation, abst](#)

Bibliometrics: Downloads (6 Weeks): 77, Downloads (12 Months): 487, Downl

This survey describes research directions in techniques to improve the p programming language. The standard technique for Java execution is in portability of programs. ...


Keywords: Java, Java virtual machine, bytecode-to-source translators, interpreters, just-in-time compilers

17 SciSim: a software performance estimation framework using source

 Zhonglei Wang, Antonio Sanchez, Andreas Herkersdorf

June 2008 **WOSP '08: Proceedings of the 7th international workshop on**

Publisher: ACM  [Request Permissions](#)

Full text available:  Pdf (1.18 MB)

[Additional Information: full citation, abst](#)

Bibliometrics: Downloads (6 Weeks): 17, Downloads (12 Months): 93, Downlo

Recently, software performance estimation based on source code instru literature. It achieves significant speedup without compromising accurac However, much work still ...

Keywords: debugging information, microarchitecture, software perform instrumentation

18 Demystifying magic: high-level low-level programming

 Daniel Frampton, Stephen M. Blackburn, Perry Cheng, Robin J. Garner, Da

March 2009 **VEE '09: Proceedings of the 2009 ACM SIGPLAN/SIGOPS inte environments**

Publisher: ACM  [Request Permissions](#)

Full text available:  Pdf (479.11 KB)

[Additional Information: full citation, abst](#)


Bibliometrics: Downloads (6 Weeks): 35, Downloads (12 Months): 196, Downl

The power of high-level languages lies in their abstraction over hardwar security, better reliability, and lower development costs. However, opaq

systems programmers, ...

Keywords: debugging, intrinsics, jikes rvm, magic, mmtk, systems pro

19 [Dynamo: a transparent dynamic optimization system](#)

 [Vasanth Bala, Evelyn Duesterwald, Sanjeev Banerjia](#)

August 2000 **PLDI '00**: Proceedings of the ACM SIGPLAN 2000 conference
implementation

Publisher: ACM  [Request Permissions](#)

Full text available:  [Pdf](#) (156.03 KB)

Additional Information: [full citation](#), [abstract](#)

Bibliometrics: Downloads (6 Weeks): 47, Downloads (12 Months): 305, Downl

We describe the design and implementation of Dynamo, a software dyn
transparently improving the performance of a native instruction stream
native instruction stream ...

Also published in:

May 2000 **SIGPLAN Notices** Volume 35 Issue 5

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